

the star in the calendar has been of the utmost importance for the progress of astronomy, since it led the Egyptians directly to the determination of the approximate length of the solar year and thus laid the basis of the modern calendar; for the Julian calendar, which we owe to Caesar, was founded on the Egyptian theory, though not on the Egyptian practice.¹ It was therefore a fortunate moment for the world when some pious Egyptian, thousands of years ago, identified for the first time the bright star of Sirius with his goddess ; for the identification induced his countrymen to regard the heavenly body with an attention which they would never have paid to it if they had known it to be nothing but a world vastly greater than our own and separated from it by an inconceivable, if not immeasurable, abyss of space.

The cutting of the darns and the admission of the water

period was recognized by the Egyptian astronomers who instituted the movable year of 365 days. Rather, as Ideler pointed out (*op. cit.* l. 132), it must have been a later discovery based on continued observations of the heliacal rising of Sirius and of its gradual displacement through the whole length of the official calendar. Brugsch, indeed, went so far as to suppose that the period was a discovery of astronomers of the second century A.D., to which they were led by the coincidence of the first of Thoth with the heliacal rising of Sirius in 139 A.D. (*Die Agyptologie*, p. 357). But the discovery, based as it is on a very simple calculation ($365 \times 4 = 1460$), could hardly fail to be made as soon as astronomers estimated the length of the solar year at 365³ clays, and that they did so at least as early as 238 B.C. is proved conclusively by the Canopic decree. See above, pp. 25 *sq.*, 27. As to the Sothic period see further R. Lepsius, *Die Chronologie der Aegyptier* i. 165 *sqq.*; F. K. Ginzel, *op. cit.* i. 187 *sqq.* For the convenience of the reader I subjoin a table of the Egyptian months, with their dates, as these fell, (1) in a year when the first of Thoth coincided with July 20 of the Julian calendar, and (2) in the fixed Alexandrian year.

Egyptian Months.	Sothic Year beginning July 20	Alexandrian Year.
Thoth .	20 July .	29 August
Phaonhi	19 August.	28
Athvr	18	28 October
Khonsak	18 October	27
Tvbi .	17	27
Mechir	17	26 January
Phamenot h	16 January	25
Pachon	15	February
Payni	17 March	26 April
Mesori	16 April	26 May
Supplementary day	15 June .	25 July .
		24 August

See L. Ideler, *op. cit.* i.

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F. K. Ginzel, *op. cit.* i. 200.

¹ The Canopic decree (above,

p.
27) suffices to prove that the Egyptian astronomers, long before Caesar's time, were well acquainted with the approximately exact length of the solar year, although they did not use their knowledge to correct the calendar except for a short time in the reign of Ptolemy Euergetes. With regard to Caesar's debt to the Egyptian astronomers see Dio Cassius, xlivi. 26; Macrobius, *Saturn*, i. 14. 3, i. 16. 39;

L. Ideler,
Handbuch der mathematischen und technischen Chronologie ^ i. 166
sq.